

IN THE CLAIMS:

Please delete claims 1-47.

Please add new claims 48-109 as follows:

48. A method for modifying a hydrophobic surface to create adhesive and non-adhesive regions comprising the steps of:

contacting a first region of the hydrophobic surface with a modified PPO- and PEO- containing triblock or diblock copolymer comprising an activated end group such that said modified copolymer adsorbs onto said first region, thereby converting said first region into a modified copolymer-coated region;

contacting a second region of the hydrophobic surface with an unmodified PPO- and PEO- containing triblock or diblock copolymer such that said unmodified copolymer adsorbs onto said second region, thereby converting said second region into an unmodified copolymer-coated region; and

conjugating a natural or recombinant biomolecule to the activated end group of the modified copolymer-coated region to convert said modified copolymer-coated region into a biomolecule-conjugated copolymer-coated region,

wherein said biomolecule-conjugated copolymer-coated region is characterized by being adhesive to cells, viruses, and biomolecules and said unmodified copolymer-coated regions are characterized by being non-adhesive to cells, viruses, and biomolecules.

49. A method as in claim 48 wherein the biomolecule is selected from the group consisting of natural or recombinant proteins, enzymes, peptides, amino acids, and nucleic acids.

50. The method according to claim 48 wherein the biomolecule is selected from the group consisting of natural or recombinant extracellular matrix proteins, adhesive proteins, and combinations thereof.

51. The method according to claim 48 wherein the biomolecule is selected from the group consisting of natural or recombinant growth factors, mitogens, cytokines, growth peptides, differentiating factors and all combinations thereof.

52. The method according to claim 48 wherein the biomolecule is selected from the group consisting of natural or synthetic sugars, carbohydrates, polysaccharides and combinations thereof.

Not Biomolecule

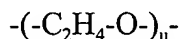
53. The method according to claim 48 wherein the biomolecule is selected from the group consisting of natural or synthetic lipids, sterols, fatty acids and combinations thereof.

54. The method according to claim 48 wherein the biomolecule is selected from the group consisting of natural or synthetic antibodies, antibody fragments, receptors, fragments of receptors, transmembrane proteins, fragments of transmembrane proteins and combinations thereof.

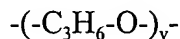
55. The method according to claim 48 wherein the copolymer is represented by the formula:



where (b) is an integer from 1 to 3, (c + d) is an integer between 0 and 5, and d is at least 1, where PEO is of the formula:



where (u) is greater than 50, where PPO is of the formula



where (v) is greater than 25.

56. The method according to claim 48 wherein the step of contacting a region of the hydrophobic surface with an unmodified PPO- and PEO- containing triblock or diblock copolymer is performed before the step of contacting a region of the hydrophobic surface with a modified PPO- and PEO- containing triblock or diblock copolymer comprising an activated end group.

57. A method for modifying a hydrophobic surface to create adhesive and non-adhesive regions comprising the steps of:

conjugating a natural or recombinant biomolecule to an activated end group of a PEO- and PPO- containing triblock and diblock copolymer to form a biomolecule-conjugated copolymer;

contacting a first region of the hydrophobic surface with the biomolecule-conjugated copolymer such that the biomolecule-conjugated copolymer adsorbs onto said first region, thereby converting said first region into a biomolecule-conjugated copolymer-coated region;

contacting a second region of the hydrophobic surface with an unmodified PPO- and PEO- containing triblock or diblock copolymer such that said unmodified copolymer

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adsorbs onto said second region, thereby converting said second region into an unmodified copolymer-coated region; and

wherein said biomolecule-conjugated copolymer-coated region is characterized by being adhesive to cells, viruses, and biomolecules and said unmodified copolymer-coated regions are characterized by being non-adhesive to cells, viruses, and biomolecules.

58. A method as in claim 57 wherein the biomolecule is selected from the group consisting of natural or recombinant proteins, enzymes, peptides, amino acids, and nucleic acids.

59. The method according to claim 57 wherein the biomolecule is selected from the group consisting of natural or recombinant extracellular matrix proteins, adhesive proteins, and combinations thereof.

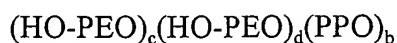
60. The method according to claim 57 wherein the biomolecule is selected from the group consisting of natural or recombinant growth factors, mitogens, cytokines, growth peptides, differentiating factors and all combinations thereof.

61. The method according to claim 57 wherein the biomolecule is selected from the group consisting of natural or synthetic sugars, carbohydrates, polysaccharides and combinations thereof.

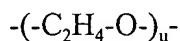
62. The method according to claim 57 wherein the biomolecule is selected from the group consisting of natural or synthetic lipids, sterols, fatty acids and combinations thereof.

63. The method according to claim 57 wherein the biomolecule is selected from the group consisting of natural or synthetic antibodies, antibody fragments, receptors, fragments of receptors, transmembrane proteins, fragments of transmembrane proteins and combinations thereof.

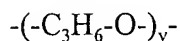
64. The method according to claim 57 wherein the copolymer is represented by the formula:



where (b) is an integer from 1 to 3, (c + d) is an integer between 0 and 5, and d is at least 1, where PEO is of the formula:



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where (u) is greater than 50, where PPO is of the formula



where (v) is greater than 25.

65. The method according to claim 57 wherein the step of contacting a region of the hydrophobic surface with an unmodified PPO- and PEO- containing triblock or diblock copolymer is performed before the step of contacting a region of the hydrophobic surface with a modified PPO- and PEO- containing triblock or diblock copolymer comprising an activated end group.

66. A device with adhesive and non-adhesive regions comprising:

a hydrophobic surface partitioned into a first region and a second region;

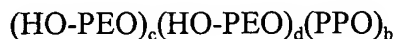
a PPO- and PEO- containing diblock or triblock copolymer absorbed onto said first region of said surface;

a PPO- and PEO- containing diblock or triblock copolymer comprising an activated end group absorbed onto said second region; and

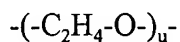
a natural or recombinant biomolecule conjugated to said activated end group.

67. A device as in claim 66 wherein the biomolecule is selected from the group consisting of natural or recombinant growth factors, mitogens, growth peptides, differentiating factors, sugars, carbohydrates, polysaccharides, lipids, sterols, fatty acids, antibodies, antibody fragments, receptors, receptor fragments, transmembrane proteins, fragments of transmembrane proteins, and combinations thereof.

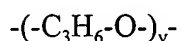
68. A device as in claim 66 wherein diblock or triblock copolymer is represented by the formula:



where (b) is an integer from 1 to 3, (c + d) is an integer between 0 and 5, and d is at least 1, where PEO is of the formula:



where (u) is greater than 50, where PPO is of the formula



where (v) is greater than 25.

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